

# Aquilegia

Newsletter of the Colorado Native Plant Society



"... dedicated to the appreciation and conservation of the Colorado native flora"

Volume 30 Number 3

ANNUAL MEETING EDITION

June - July 2006

## 2006 ANNUAL MEETING

### THE ARKANSAS BASIN AND BEYOND: 10,000 FEET OF FLORA

September 8-10, Colorado Springs

The Southeast Chapter invites CONPS members to attend the annual meeting on the campus of the University of Colorado at Colorado Springs (UCCS), September 8 - 10, 2006. The theme of the meeting is the unique flora of southeastern Colorado. Those unfamiliar with the flora of this region may not realize that southeastern Colorado has species in common with southern and eastern states. Plant associations in this region can be considerably different from those in northern and western Colorado or as Jack Carter says "flora doesn't recognize state boundaries."

The Rare Plant Technical Committee will meet on Friday; and Friday evening we will have a summary of the RPTC, a program on regional geology and a social hour. The Saturday programs are about the regional flora, concluding with a campus field trip starting at the meeting room door. Three field trips of limited size are scheduled for Sunday September 10. The trips choices are 1) the shortgrass prairie of the Chico Basin Ranch, 2) the foothills ecosystem of Aiken Canyon Preserve; or 3) the Pikes Peak Alpine Laboratory Ruins accessed from the Manitou and Pikes Peak Cog Railway.

#### Reservations for Luncheon and Field Trips

To reserve your place at the Saturday luncheon banquet and at the field trips please sign up and remit your check by August 22, 2006. To reserve space at the buffet luncheon Saturday September 9, pay \$12 per person in advance prior to August 22. Late registrants can sign up later, but will not be able to attend the banquets.

#### Parking

Parking on campus has been arranged for free ONLY in Lots 3 and 4 for Friday Sept 8 from 8:30 am- 9:30 pm. There is no charge or permit required for Saturday Sept. 9. Park in parking lot 3 or 4 only to avoid fines. Alternatively, one can pay at the visitor parking garage Level 3.

The Southeast Chapter is looking forward to hosting the meeting on this lovely campus and invites all interested members to attend. On the thirtieth anniversary of our organization, come and experience the vitality of our botanical community. Call Liz Klein 719 633-5927 or email [eklein@kiowaengineeringcs.com](mailto:eklein@kiowaengineeringcs.com) for more information.

#### 3rd Annual Colorado Rare Plant Symposium

September 8, 2006 - 9:30 am-5:00 pm

University of Colorado at Colorado Springs

Join members of the Colorado Rare Plant Technical Committee (RPTC) for the third annual Colorado Rare Plant Symposium. The RPTC is an ad-hoc group of agency and NGO botanists that has been working for years to advance rare plant efforts in the state. Your personal knowledge of Colorado field botany makes your contribution to this effort critical. The RPTC will select approximately 20 globally imperiled (G2) species known from southeastern Colorado for discussion of their current status and potential threats, as well as present highlights from last years symposium. The symposium is open to any one with an interest in the rare plants of southeastern Colorado. Contact Jill Handwerk for more information at [jhand@lamar.colostate.edu](mailto:jhand@lamar.colostate.edu) or 970-491-5857. Hope to see you there!

*"Annual Meeting" continues on page 2*

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**THE THIRTIETH ANNUAL COLORADO NATIVE PLANT SOCIETY MEETING****Friday September 8 - Sunday September 10, 2006****University of Colorado at Colorado Springs Campus****1420 Austin Bluffs Parkway****University Center Rooms 302 and 303****Friday, September 8**

- 9:00 - 4:00     Rare Plant Symposium  
6:30            Annual Meeting Registration  
6:50            Welcome and Introductions  
7:00            Robert Houdek - Zeb Pike  
7:10            Jeff Noblett, Colorado College  
                  The Pikes Peak Region: Two Billion Years of Geology to Create the Modern Landscape.  
7:50            Rare Plant Symposium Report  
8:20            Refreshments and Socializing

**Saturday, September 9**

- 8:00            Registration and Refreshments  
8:45            Welcome and Introductions  
9:00            Keynote Speaker - Tass Kelso, Colorado College  
                  The Rare Plants of the Arkansas River Chalk Barrens: A Study in Edaphic Endemism.  
9:40            Steve Olson, Boyce Drummond, John Proctor and Leo Bruederle  
                  Ecology of *Penstemon degeneri*: A Local Endemic in the Wet Mountains, Pike National Forest.  
  
10:10           Break - Booksales and Refreshments  
  
10:40           Judy Von Ahlefeldt  
                  Landscape Ecology of the Palmer Divide.  
11:10           Renee Rondeau, Colorado Natural Heritage Program  
                  Grasslands of the Chico Basin Ranch, El Paso County.  
11:40           Jack Carter, Colorado College (retired) author of *Trees and Shrubs of Colorado and New Mexico*.  
  
12:10           Buffet Lunch - University Center Room 116 and Book Sales  
  
1:30            Leo Bruederle - President's Report and Awards  
1:50            Wojtek Rychlik, George Cameron and Doris Drisgill  
                  Macro Photographs of Pikes Peak Alpine Flora.  
2:20            Ann Young, Broadmoor Garden Club  
                  Report on the *Cypripedium* Surveys of Emerald Valley in the Pike National Forest.  
  
2:50            Break - Booksales and Refreshments  
  
3:20            Boyce Drummond  
                  Effects of Reforestation on Native Plants in the Hayman Burn.  
3:50            Steve Jennings, University of Colorado at Colorado Springs  
                  Flora of the UCCS Campus.  
4:20            UCCS Campus Field Trip

**Sunday, September 10 - Field Trips (Pre-registration necessary)**

- Chico Basin Ranch - Renee Rondeau, Colorado Natural Heritage Program  
Aiken Canyon Preserve managed by The Nature Conservancy - George Cameron  
Pikes Peak Alpine Botanical Laboratory - Liz Klein

## Compound Disturbance in a Managed Landscape: Ecological Effects of Catastrophic Blowdown, Salvage-Logging, and Wildfire in a Subalpine Forest

Cristina Rumbaitis del Rio, University of Colorado, Boulder

cmr13@columbia.edu

This study evaluated the potential compounding effect of salvage-logging and wildfire following wind disturbance on seedling regeneration, understory composition, and ecosystem processes in Routt National Forest, a subalpine forest that sustained a 10,000 ha blowdown in 1997, was partially salvage-logged in 1999, and burned in 2002. From 2000 to 2002, I examined the effects of the blowdown and salvage-logging disturbances on 1) tree seedling regeneration dynamics, 2) understory vegetation composition and cover, and 3) nutrient cycling and ecosystem processes.

In terms of seedling regeneration dynamics, results show little evidence of new seedling establishment in either blowdown or salvage-logged areas, confirming the results of prior studies in Colorado subalpine forests that show that advanced regeneration of previously suppressed understory seedlings is the primary mechanism of regeneration in wind-disturbed subalpine ecosystems. Density of residual seedlings, particularly Engelmann spruce seedling density, was severely reduced in salvage-logged areas. Subsurface soil temperatures routinely exceeded 32 degrees C during the growing season in salvage-logged areas, and may have induced physiological shock in residual seedlings. Seedlings in blowdown areas showed enhanced growth rates in the period following the 1997 blowdown but otherwise did not differ significantly in their density or composition from seedlings in control stands. Seedling growth rates since the blowdown were most closely related to the biomass of woody debris, which may indicate the importance of woody debris in moderating temperature and light availability in a manner that favors seedling growth.

These results suggest salvage-logging following catastrophic wind disturbance disrupts the advanced regeneration processes that ensue following wind disturbance in subalpine forest ecosystems. If new seedling establishment remains low over

time, salvage-logged areas with extremely low residual seedling densities may transition from a spruce-fir dominated ecosystem to a subalpine meadow.

Studies of the composition, cover and diversity of understory plants revealed that understory species cover and diversity were greater in blown down areas than in salvage-logged or control areas. At a landscape level, the blowdown added 15 species to the assemblage found in intact spruce-fir forest, whereas salvage-logging only added two species not found in the other treatments, one of which, *Spegularia rubra*, is non-native. From a landscape perspective, the blowdown disturbance helps maintain understory diversity, while initially salvage logging does not contribute significantly to understory diversity. Blowdown areas experienced an increase in cover of early successional species that thrive in disturbed areas, such as *Rubus idaeus*, *Chamerion danielsii* and *Distegia involucrata*, as well as late successional species such as *Geranium richardsonii*, *Oreochrysum parryi* and *Thalictrum fendleri*. Species growing in salvage-logged areas were primarily early successional disturbance specialists such as *Chlorocrepis gracilis*, *Spegularia rubra*, *Chamerion danielsii* and shade-intolerant species such as *Arnica cordifolia* and *Carex rossi*. Community composition of each treatment area was distinct and related to a gradient in organic soil depth, which reflected the severity of understory disturbance. Nonnative species cover was less than 1% in all treatment areas, though 73% of all plots contained at least one non-native species. Nonnative cover was greater in blowdown areas than in control areas where total vegetation cover was also greater. Proportional cover of nonnative species was greater in salvage-logged areas than in other areas. Composition and diversity in blowdown areas relative to control areas stabilized in the five years following the blowdown, but vegetation cover continued to increase. Salvage logged areas exhibited a shift towards graminoid dominance, which could pre-

vent or delay future conifer seedling establishment.

The third part of this study evaluated the effects of the wind and salvage-logging disturbance on biotic control of nutrient cycling. Inorganic nitrogen availability in the top ten cm of soil, rates of nitrogen cycling in the soil (net nitrification, net and gross nitrogen mineralization) and decomposition of leaf material did not differ between blowdown and control areas of intact forest. This suggests that tight biotic control is maintained over these ecosystem processes despite massive structural disruption of the overstory in blowdown areas. In contrast, salvage-logging resulted in erosion of soil organic matter and soil compaction, which increased the carbon to nitrogen ratio of the top ten cm of soil, which is an inverse measure of soil quality. Consequently, rates of nitrogen cycling (net and gross rates of nitrogen mineralization and potential nitrification rates) were significantly lower in salvage-logged areas than in blowdown areas. Leaf decomposition rates in salvage-logged areas were elevated as a result of greater inorganic nitrogen availability and carbon limitation from the lack of fresh leaf material in sparsely-vegetated salvage-logged areas. These results support the hypothesis that salvage-logging following wind disturbance converts a biologically intact system into a highly modified system, where reduced vegetation growth and abiotic factors such as soil erosion, compaction, and elevated surface temperatures are important factors driving ecosystem-level processes.

Overall results of this study showed that despite massive structural disruption of the overstory, tight biotic control was maintained over ecosystem processes in the blowdown. Recovery mechanisms included accelerated growth of understory seedlings and expansion of understory vegetation cover. Downed wood moderated light and temperature conditions in a manner that favored vegetation growth. In contrast, mechanized salvage-logging resulted in elevated soil temperatures, soil



compaction and erosion, and reduced rates of nitrogen cycling in soil. Seedling density and understory vegetation cover were also reduced; new seedling establishment was minimal. Conditions in salvage-logged areas were similar to south-facing clearcuts where failures in natural regeneration are common, suggesting that if new seedling establishment remains low, reestablishment of forest cover in salvage-logged areas will be delayed. Thus, salvage-logging following windthrow disrupts recovery mechanisms, converting a biologically intact ecosystem into a modified state, where a shift in ecosystem regime is possible.

Following the 2002 fires in the study area, I expanded the study to evaluate the effects of prior blowdown and salvage-logging disturbances on post-fire regeneration dynamics. In the first year following a wildfire in the study area, vegetation growth and seedling establishment were very low. Newly established tree seedlings were found in previously undisturbed burned areas, but not in burned blowdown or burned salvage-logged areas, possibly reflecting the lack of seed trees in these areas. Wildfire resulted in increased inorganic nitrogen availability in the top ten cm of soil, and decreased soil carbon and nitrogen concentrations, but resulted in no difference in net nitrogen mineralization rates relative to unburned areas. There were few differences among burned areas as a result of pre-fire disturbance history. Only soil carbon concentrations were significantly lower in burned blowdown areas than in other burned areas, possibly as a result of greater fire intensity in burned blowdown areas. Differences in vegetation cover, seedling density and soil properties between unburned blowdown, unburned salvage-logged and control areas of intact forest were consistent with results of previous research. This study suggests that initially, the effects of a severe fire tend to "erase" the effects of previous disturbances on soil properties and nitrogen cycling. However, with time, the effects of disturbances that occurred prior to the wildfire may become more pronounced.

### Review of New Plant Taxonomy Textbooks

Neil Snow, Ph.D.

University of Northern Colorado

Our knowledge of plant relationships has changed considerably over the past two decades. This article reviews two relatively new textbooks on plant taxonomy that reflect that knowledge. Since both are organized around the Angiosperm Phylogeny Group II (APG II) classification of Orders and Families, it is a safe bet that the APG II classification will be followed for some time.

The first is *Systematic Botany of Flowering Plants: A New Phylogenetic Approach to Angiosperms of the Temperate and Tropical Regions* by R. E. Sprichiger, V. Savolainen, M. Figeat and D. Jeanmonod (2004; Science Publishers, Inc., Enfield (NH), USA and Plymouth, UD. ISBN (hardback) 1-57808-315-X. See <http://www.scipub.net>. List Price: \$85.00). This book has 414 pages in 6 chapters (History of Botanical Classification; Species and Speciation; Floras and Vegetation; From Algae to Angiosperms; Evolution and Classification of Plants with Seeds; and Selected Orders and Families). The largest part of the book is the "Descriptive Plates of Families," where numerous families are

given a 2-page spread. On the left is a description of the family, including approximate number of genera, the approximate number of species and its geographical range. Next is the description of the family and its placement in previous classification systems and useful plants and floral diagrams. The right page shows black and white line drawings of branches, flowers and fruits, and black and white photographs showing details of smaller structures such as stamens. Next are four Annexures (appendices), the first being a glossary and the second being a "Key to Identification of Tropical Families by Observation of Vegetative Characters." You may wonder why the authors would include 12 pages on tropical family identification with numerous line drawings. Three reasons suggest themselves to me. First, the greatest diversity of flowering plants occurs in the tropics. Two, much of that plant biodiversity is being lost at an alarming rate and time is running out to document it. Third, botanists in the tropics typically learn to identify families first by their vegetative characters. The third annexure is the Taxonomic Index and the fourth is the List of Species Illustrated with Colour Photographs on the CD-ROM, which contains 300 images of species, with 3-4 photos for most families ranging from excellent to marginal quality. The last page, the "General Outline of the Taxonomic Organization of the Book, with a List of the Families Described", depicts a phylogeny of the main lineages of angiosperms with the families treated listed at the tips of each branch. The text is compact and only slightly larger than a typical "Peterson" field guide. It differs from many plant taxonomy textbooks by its absence of a North American focus. I would most likely adopt this book when teaching plant taxonomy in a tropical field course.

The other new text is *Plant Systematics* by Michael G. Simpson (2006; Elsevier Academic Press. ISBN (hardback) 0-12-644460-9. List price: \$69.95). The book is 590 pages with dimensions of a college textbook. The text is divided into four units. Unit 1 "Systematics" (2 chapters) provides an overview of plant systematics and phylogenetic systematics. The latter is lengthy, but I highly recommend it to those who want a better understanding of that topic. Unit 2 "Evolution and Diversity of Plants" (6 chapters) covers the classification and descriptions of all the major lineages of plants and many of their families. This section is lavishly illustrated with good to excellent color photos. In fact, it is hard to imagine a better-illustrated volume. Unit 3 "Systematic Evidence and Descriptive Terminology" (6 chapters) covers aspects of plant morphology, anatomy, embryology, palynology, reproductive biology and molecular systematics. These topics are covered with care and the rich color layouts are evocative of the excellent standard set by the many editions of *Biology of Plants* by Raven, Evert and Eichhorn. Unit 4 "Resources in Plant Systematics" has chapters on plant identification, nomenclature, collecting and documentation, herbaria and data information systems, and three appendices (plant descriptions, botanical illustrations, and plant systematics journals). A glossary of terms and index completes the text. In my view Simpson has established the new standard by which plant taxonomy textbooks will be modeled, and I predict this book will be widely adopted at the tertiary level.

In summary, both texts follow the APG II classification, have their individual strengths, and likely will be used for different roles.

## Society Announcements

### **Book Review**

*The Enchanted Mesa; an Introduction to Its Natural History*  
by Url Lanham

Defined by the author as the tableland and canyons between Bluebell Canyon and South Boulder Creek, the Enchanted Mesa is part of Boulder's open space along the Flatirons. Illustrated by the author's daughter, Margy Lanham, *The Enchanted Mesa* was written by Url Lanham in 1974. This charming book is intended for the casual reader and contains no index or bibliography. The main portion of the book deals with the vegetation of the area, although the geology and wildlife are also discussed. Entries for each plant are brief, but Lanham's observations provide enjoyable reading. For example, "Evening primrose (*Oenothera strigosa*). A tall, bushy plant, two or three feet high, with the yellow flowers rather small for an *Oenothera*. Pollinated by a strange, small bee that flies in early dawn, furnished with special pollen brushes to handle the large pollen grains that come in strings, and with large ocelli (the "simple" eyes) for use in the dim light." (p.79) Each plant description is accompanied by a line drawing. Url Lanham, who passed away in 1999, was Professor Emeritus at the University of Colorado in Boulder. He was the author of many scholarly papers as well as numerous books including *The Bone Hunters* and *The Sapphire Plant*. A number of copies of *The Enchanted Mesa*, an out-of-print hard cover book, have been obtained by the Colorado Native Plant Society and are available for purchase from the Sales Committee.

-- Jan Loechell Turner

### **Society Awards**

The Board of Directors of the Colorado Native Plant Society desires to honor contributions to Colorado botany and the Society with the following types of awards. Nominations may be made at the chapter or state level and submitted to President Leo Bruederle, Leo.Bruederle@cudenver.edu.

**Recognition Gifts** - non-members who provide a one-time service to the society.

**Certificate of Appreciation** - members and non-members who provide occasional services to the society.

**Certificate of Merit** - members who have made a significant contribution to the Society in a short period of time (less than five years).

**Special Merit Award** - non-members for short-term contributions to Colorado botany and/or significant contributions to the Society's goals.

**Honorary Lifetime Membership** - CONPS member for long-term, high quality service to the Society (over ten years).

**Lifetime Achievement Award** - members and non-members for long-term (30+ years) contributions to Colorado botany.

### **Research Grant Recipients Announced**

The John W. Marr and Myrna P. Steinkamp funds of the Colorado Native Plant Society support research on Colorado native plant biology and natural history. Thanks to the generous contributions of many members and supporters, the John W. Marr and Myrna P.

Steinkamp funds have grown and the Society is now able to offer larger research grants, up to \$1000. The 2006 recipients are listed below.

**Dr. Catherine Kleier and Dr. Christy Carello** of Metropolitan State College of Denver - the effect of willow (*Salix* spp.) clipping on biodiversity in a subalpine forest in Breckenridge.

**Jennifer Kapp** of Western State College - genetic differentiation among cheatgrass (*Bromus tectorum*) populations within the Gunnison Basin.

**Dr. Koren Nydick**, Director of the Mountain Studies Institute - a monitoring program to determine the effect of global warming on alpine plant communities in the San Juan Mountains, SW Colorado, including a rare plant survey of the area by botanist Peggy Lyon.

Grant recipients are required to write a summary of their research for publication in *Aquilegia* and posted on the CONPS website, [www.conps.org](http://www.conps.org), Research Grants section. Grant recipients are also encouraged to present a program on their research at chapter or annual CONPS meetings. Please consider supporting Colorado native plant research by making a contribution to the Marr or Steinkamp Research Grant fund. Additional information about the research grants may be found on the CONPS web site at [http://conps.org/research\\_grants.html](http://conps.org/research_grants.html).

Jan Loechell Turner  
Chair, Research Grants Committee

### **Southwest Chapter News**

Sandy Friedley has stepped down as President of the Southwest Chapter after many years of great service. The Colorado Native Plant Society and its Southwest Chapter owe her a tremendous "THANK YOU" for her dedication and time. Al Schneider has been elected to head the Southwest Chapter. Phone him at 970-882-4647 or email him at [webmaster@conps.org](mailto:webmaster@conps.org).

### **High Altitude Record for Mountain Ball Cactus?**

*Pediocactus simpsonii* is a common outer foothills plant, but this observation might mark its upper limit and pose an interesting problem. In 1994 or 1995 we found a veritable carpet of these on top of the Bald Mountain that lies west of Sugarloaf Mountain between the two arms of the Switzerland Trail. The new Boulder County trail map gives the altitude at 9,147 feet. This spring we thought it would be fun to visit the cactus display again, but on the summit we found only one live ball cactus and one dead or nearly invisible one. There wasn't a trace of the dense growth we had found before. On the south-facing meadow (8,100 feet) we have found the ball cactus flowering regularly for 14 years. Has anyone an explanation for the sudden crash of a stand like that on Bald Mountain? Does anyone know about the normal longevity of these plants? Is this stand an altitude record? There is so much we don't know about the life history of some of our most common plants. Contact Dr. William A. Weber, at [weberw@buffmail.col-orado.edu](mailto:weberw@buffmail.col-orado.edu) or website: <http://spot.colorado.edu/~weberw>.



## CHAPTER NEWS

### Boulder Chapter

Monthly meetings are the on the second Thursday of the month at 7 PM at the City of Boulder Open Space and Mountain Parks offices in the north building conference room, 66 South Cherryvale Road. From South Boulder Road, go south on Cherryvale 1/10 mile and turn west onto a lane to the offices. Contact Tommi Wolfe, [scanesclan@comcast.net](mailto:scanesclan@comcast.net) or 303-682-1208.

### Fort Collins Chapter

Month meetings are held **Wednesday** at 7 PM at the Gardens on Spring Creek, 2145 Centre Ave., Fort Collins. Dinner with the speaker will be at 5:15 pm at The Rainbow on Laurel St. Please contact Denise Culver the day before if you will join us for dinner, [dculver@lamar.colostate.edu](mailto:dculver@lamar.colostate.edu) or 970-491-2998.

### Metro-Denver Chapter

Monthly meetings are held September through April at 7 PM in the Waring House Main Room (unless otherwise noted) at the Denver Botanic Garden (the mansion just south of the main entrance on York Street). To enter, head south on York past the Gardens main entrance. Make an immediate right into parking lot that says "Staff Parking." Members are invited to join speakers at 5:30 PM for pizza at Angelo's, 620 East 6th Ave (between Pearl and Washington) in Denver. For more information, contact Chapter President Naomi Nigro, 303-366-6033, or email [naomi4CoNPS@hotmail.com](mailto:naomi4CoNPS@hotmail.com).

### Denver Botanic Gardens Discount Membership

Contact Denver Chapter President Naomi Nigro for details and coupon.

### Plateau Chapter

Contact Chapter President Jeanne Wenger at 970- 256-9227, [stweandjaw@acsol.net](mailto:stweandjaw@acsol.net) or Gay Austin, 970-641-6264, [austinaceae@frontier.net](mailto:austinaceae@frontier.net) for meeting information.

**July 22 - 23 Identifying Alpine Wildflowers.** 9 am - 3 pm, Saturday and Sunday. This weekend workshop will emphasize identifying subalpine and alpine plants on Cottonwood Pass. Registration fee is \$10.00; two texts and hand lens are \$18.00. Registration deadline is July 20. Contact Dr. Longpre at 480 474- 2074 or email at [sabazia1933@hotmail.com](mailto:sabazia1933@hotmail.com) or contact Gay Austin at 970-641-6264 or email at [austinaceae@frontier.net](mailto:austinaceae@frontier.net).

### Southeast Chapter

Activities are scheduled throughout the year and often held at the Beidleman Environmental Center, on Caramillo St., north of Uintah, off Chestnut, in Colorado Springs. The chapter is recruiting for the office of President. For chapter information or to volunteer, contact Liz Klein, [eklein@kiowaengineerings.com](mailto:eklein@kiowaengineerings.com), 719-633-5927 or Elsie Pope, 719-596-4901.

For information, email Doris Drisgill, [ddrisgill@cs.com](mailto:ddrisgill@cs.com), or call Liz Klein, 719-633-5927 or Elsie Pope, 719-596-4901.

### Southwest Chapter

For news and activities, contact Chapter President Al Schneider, 970-882-4647, [webmaster@conps.org](mailto:webmaster@conps.org).

**August 26 Bolam Pass.** Contact Leslie Stewart, 970-882-7241.

### AQUILEGIA DEADLINE - AUG 31

Submit contributions for Vol. 30, No. 4 by August 31, 2006. Submit via e-mail as an MS Word or rtf document. See page 7 for additional information.

### 33rd ANNUAL NATURAL AREAS CONFERENCE

#### Stewards of the Old and New West

**September 20-23, 2006  
Flagstaff, Arizona**

Visit [www.cpcesu.nau.edu/NAC2006](http://www.cpcesu.nau.edu/NAC2006) to register. Early registration ends August 4

The Natural Areas Association and the National Park Service will co-host the 33rd Annual Natural Areas Conference which will be held on the mountain campus of Northern Arizona University. The program will include keynote speakers, symposia, contributed papers, and posters covering a broad range of natural area and biodiversity preservation issues. Pre, post and mid conference field trips will expose participants to the beauty, traditions, and conservation issues of the spectacular Colorado Plateau. The conference will address the possible conflicts between the Old West traditions of Native Americans and ranchers and the New West views of new full-and part-time residents. Can traditional use and ranching activities be sustained while preserving natural areas and native biodiversity in the face of population growth and development?

Keynote speakers include Thomas Sisk, Professor of Ecology at Northern Arizona University, Ed Marston, Publisher Emeritus of High Country News, and Charles Wilkinson, Distinguished Professor of Law at the University of Colorado.

### Aquilegia via Email

*Aquilegia* is available via email as an Adobe document. File size is typically 2-3 MB and fast internet connections are needed to download or view it. Send your email address to Eric Lane, [eric.lane@ag.state.co.us](mailto:eric.lane@ag.state.co.us), or Alice Guthrie, [molly82@earthlink.net](mailto:molly82@earthlink.net).



Colorado Native Plant Society

# Aquilegia

The Colorado Native Plant Society is a non-profit organization dedicated to the appreciation and conservation of the Colorado native flora. Membership is open to all with an interest in our native plants, and is composed of plant enthusiasts both professional and non-professional.

Please join us in helping to encourage interest in enjoying and protecting Colorado's native plants. The Society sponsors field trips, workshops, and other activities through local chapters and statewide. Contact the Society, a chapter representative, or committee chair for more information.

## Schedule of Membership Fees

Life .....	\$250
Supporting .....	\$50
Organization or Corporate .....	\$30
Family or Dual .....	\$20
Individual .....	\$15
Student or Senior .....	\$8

## Membership Renewal/Information

Please direct all membership applications, renewals, and address changes to the Eric Lane (Chair of Membership), Colorado Native Plant Society, P.O. Box 200, Fort Collins, CO 80522. Please direct all other inquiries regarding the Society to the Secretary at the same address.

*Aquilegia* is published four or more times per year by the Colorado Native Plant Society. This newsletter is available to members of the Society and to others with an interest in native plants. Articles for *Aquilegia* may be used by other native plant societies or non-profit groups, if fully cited to author and attributed to *Aquilegia*.

Articles from 500 to 1500 words in length, such as unusual information about a plant, are welcome. Previously published articles submitted for reprinting require permission. Digital photographs or line drawings are also solicited. Please include author's name and address, although anonymity may be requested. Articles must be submitted electronically.

Please direct all contributions to the newsletter to:

**Alice Guthrie**  
**509 Collyer**  
**Longmont, CO 80501**  
**E-Mail: molly82@earthlink.net**  
**guthriea@ci.boulder.co.us**

## Officers

President.....	Leo Bruederle ..	303-556-3419
Vice-President ...	David Anderson ..	970-484-0774
Secretary.....	Kim Regier.....	303-556-8309
Treasurer.....	Naomi Nigro ...	303-366-6033

## Board of Directors

John Giordanengo (06)	Golden .....	303-996-2760
Brad Johnson (06)...	Fort Collins ..	970-491-6932
Gwen Kittel (06)...	Boulder .....	303-258-0908
Jan Loechell (06) ...	Golden.....	303-458-4262
Laurel Potts (06)....	Gypsum.....	970-524-3377
Dick Fisher (07) ....	Steamboat .....	
.....	Springs .....	970-276-4448
John Proctor (07) ...	Walden.....	970-723-8204
Boyce Drummond (08)		
.....	Fort Collins ..	970-690-7455
Denise Wilson (08) ..	Golden.....	303-642-0510
Steve Yarbrough (08)	Wheatridge ..	303-233-6345

## Chapter Presidents

Boulder.....	Tommi Wolfe ..	303-682-1208
Fort Collins .....	Denise Culver ..	970-491-2998
Metro-Denver....	Naomi Nigro ....	303-366-6033
Plateau .....	Jeanne Wenger ..	970-256-9227
Southeast .....	Doris Drisgill & ..	719-578-1091
.....	Liz Klein .....	719-633-5927
Southwest .....	Al Schneider ....	970-882-4647

## Standing Committees and Chairs

Conservation ...	Sarada Krishnan ..	303-465-4274
Education and Outreach		
.....	Megan Bowes ..	303-561-4883
Endowment .....	Vacant .....	
Field Studies ...	John Proctor .....	970-723-8204
Field Trips .....	Steve Yarbrough ..	303-233-6345
Finance.....	Naomi Nigro ....	303-366-6033
Horticulture and.	Laurel Potts & ...	970-328-8633
Restoration....	Lisa Tasker .....	970-948-4857
Media.....	Boyce Drummond .....	
.....		970-690-7455
Membership.....	Eric Lane .....	303-239-4182
Rare Plant .....	Eleanor Von Barga	
Monograph .....		303-756-1400
Research Grants.	Jan Loechell .....	303-458-4262
Sales.....	Denise Wilson ...	303-642-0510
Workshop.....	Mary Ellen Ford .....	

## MEMBERSHIP APPLICATION AND RENEWAL FORM

Name(s) \_\_\_\_\_  
 Address \_\_\_\_\_  
 (Address) \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Phone \_\_\_\_\_ E-mail \_\_\_\_\_

### MEMBERSHIP CLASS:

Dues cover a 12-month period.

- ☐ Individual, \$15.00  
☐ Family/dual, \$20.00  
☐ Senior, \$8.00  
☐ Student, \$8.00  
☐ Corporate, \$30.00  
☐ Supporting, \$50.00  
☐ Lifetime, \$250.00

Chapter (Circle one): Boulder Fort Collins Metro Denver Plateau Southeast Southwest

In addition to my membership, I have included \$\_\_\_\_\_ as a contribution to the John Marr Fund (endowment in support of small grants-in-aid of research), \$\_\_\_\_\_ as a contribution to the Myrna P. Steinkamp Memorial Fund (endowment in support of small grants-in-aid of research), or \$\_\_\_\_\_ as a general contribution to the Society.

CONPS IS A NON-PROFIT ORGANIZATION — DUES AND CONTRIBUTIONS ARE TAX-DEDUCTIBLE



# CALENDAR 2005 - 2006

## SOCIETY FIELD TRIPS

- July 21**      **Hoosier Ridge**  
Steve Yarbrough, syarbrough@e2m.net
- July 22**      **Rocky Mountain National Park**  
Steve Yarbrough, syarbrough@e2m.net
- July 29**      **Middle St. Vrain Weed Survey Backpack**  
Pat Butler, 303-440-0586
- July 29**      **Shale Barrens of the Laramie River Valley**  
Rich Scully, 303-823-0766  
richwscully@msn.com
- August 4-6**      **Cameron Pass**  
Denise Culver, 970-491-2998
- August 5**      **South Platte Park**  
Steve Yarbrough, syarbrough@e2m.net
- January 13, 2007**  
**Winter Botany at White Ranch**  
Leo Bruederle, 303-556-3419  
leo.bruederle@cudenver.edu.

## 2006 ANNUAL MEETING

**Sept. 8-10**      **Colorado Springs**

TIME SENSITIVE MATERIAL

